



166ML

DELTROL**controls**

DIVISION OF DELTROL CORP.

165ML/166ML

5 & 10 AMP PLUG-IN MAGNETIC LATCHING RELAYS

FEATURES

- Compact Size – Fits in Standard Rectangular 11 Blade Socket
- Positive Magnetic Latch – Maintains Status without Power
- Single Coil Resets by Reversing Polarity
- Dual Coil Resets by Energizing Reset Winding

CONTACT DATA

CONFIGURATION:

AC & DC Single Coil thru 3PDT
DC Dual Coil thru DPDT

MATERIALS:

5 AMP:

1/8" Diameter Moveable Fine Silver
3/16" Diameter Stationary Fine Silver

10 AMP:

3/16" Diameter Moveable Silver Cadmium Oxide
3/16" Diameter Stationary Fine Silver

Gold Flash Standard on All Contacts

Gold Diffused Available on Special Order – Min. Qty. Req'd.

CONTACT RATINGS

MODEL	POLE CONFIGURATION	UL RATINGS
165ML	thru 3PDT	5 amp or 1/8 HP at 120VAC 5 amp or 1/4 HP at 277VAC 2 amp at 600VAC 5 amp at 28VDC
166ML	thru 3PDT	10 amp or 1/3 HP at 120VAC 10 amp or 1/2 HP at 277VAC* 10 amp at 28VDC 1 HP at 277VAC – 3 phase 3 amp or 1/2 HP at 600VAC 12 FLA, 35 LRA at 15VAC

* 3 Pole Devices Rated at 6-2/3 Amp When Switching Greater Than 150VAC, Unless Polarity is the Same on All Poles.

UL RECOGNIZED FILE NO.: E37066

CSA CERTIFIED FILE NO.: LR20690

EXPECTED LIFE

Electrical At Rated Load (Minimum)

100,000 Operations Except as Noted

Mechanical Life

10,000,000 Operations

DIELECTRIC STRENGTH

800 VRMS, 60 Hz Between Contacts
2200 VRMS, 60 Hz Between All Other Elements

MODELS

165ML: 5 Amp Single or Dual Coil

166ML: 10 Amp Single or Dual Coil

165MLB: 5 Amp ML Relay with Push to Test Button

166MLB: 10 Amp ML Relay with Push to Test Button

Other Suffixes Available

F-Flange Cover, P-Printed Circuit Terminals

TM-Top Mount Cover



COIL DATA

	NOMINAL VOLTAGE	RESISTANCE IN OHMS ± 10%	NOMINAL COIL POWER
AC Single Coil	6VAC	4.5	4.0VA
	12VAC	18	
	24VAC	72	
	48VAC	285	
	120VAC	1850	
DC Single Coil	240VAC	7200	1.5W
	6VDC	24	
	12VDC	96	
	24VDC	375	
	48VDC	1500	
DC Dual Coil	110VDC	8000	1.9W
	6VDC	19	
	12VDC	75	
	24VDC	300	
	48VDC	1200	
	110VDC	6300	

Coil Voltages: AC: Up to 277 Volts/60 Hz

DC: Up to 125 Volts

Coil Treatment: Single Coil: Molded Rynite® Std. Class F

Dual Coil: Acetate Wrapped Class B

Insulation Resistance: 100 Megohms Minimum

UL Insulation System File No.: E74443

S130 130°C Total Temperature – Class B

S155D 155°C Total Temperature – Class F

OPERATE DATA

Pick Up (at 25°C): AC: Volts 85% or Less of Nominal

DC: Volts 75% or Less of Nominal

Operate Time: Approx. 20 Milliseconds

ENVIRONMENTAL DATA

Operating Ambient: AC: -45° to 70°C

DC: -45° to 85°C

Coil Temperature Rise: (25°C Ambient – Continuous Duty)

AC: 45°C Approx. @ 60 Hz – Use at 50 Hz will

Cause Slight Increase in Coil Rise

DC: 35°C Approx.

MECHANICAL DATA

Terminals: All Versions (Except P suffix)

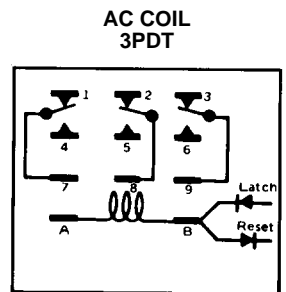
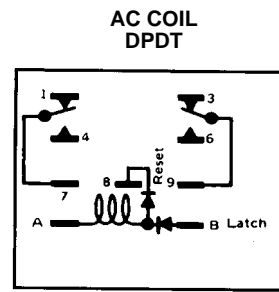
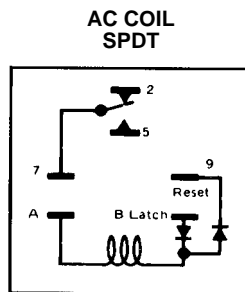
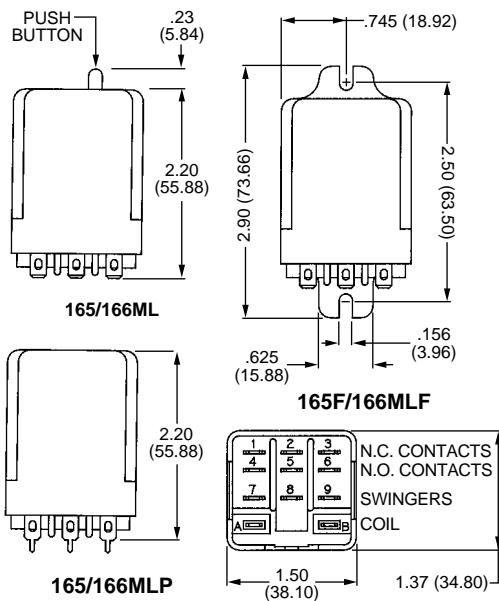
.187" x .020" Quick Connect/Solder

P Suffix Version Printed Circuit Pins

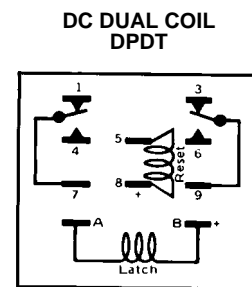
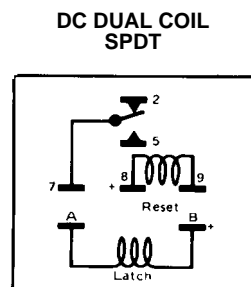
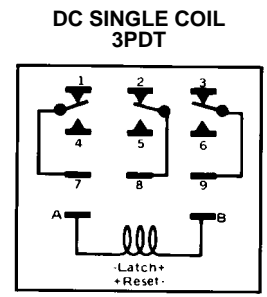
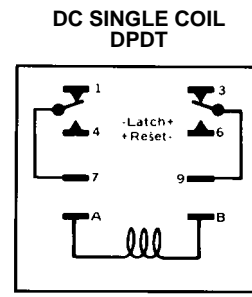
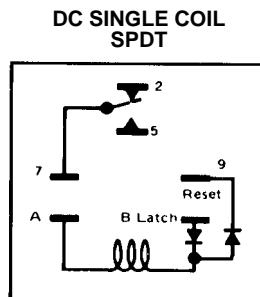
Cover: Clear Polycarbonate – Flammability Rating 94V2

Weight: Approx. 3.5 oz. (142 g)

DIMENSIONS [Unit Inch (mm)] SCHEMATICS



DIODES ARE EXTERNALLY WIRED AND SUPPLIED BY CUSTOMER. TYPE IN4005 OR EQUIVALENT RECOMMENDED 3PDT ONLY



DC DUAL COIL 3PDT NOT AVAILABLE

ORDERING INFORMATION

10 AMP Part Numbers – Single Coil Versions

AC Coils					DC Coils		
MODEL	POLE CONFIGURATION	24VAC	120VAC	240VAC	12VDC	24VDC	110VDC
166ML	SPDT	20523-82	20523-84	20523-85	20529-81	20529-82	20529-84
	DPDT	20525-82	20525-84*	20525-85	20531-81	20531-82	20531-84
	3PDT	20527-82	20527-84	20527-85	20533-81	20533-82	20533-84

10 AMP Part Numbers – Dual Coil Versions

166ML	SPDT	---	---	---	20535-81	20535-82	20535-84
	DPDT	---	---	---	20537-81	20537-82	20537-84
	3PDT	---	---	---	---	---	---

* Black Items are Normally Stocked.

Blue Items are Non-Stock. Minimum may be required.

SOCKETS

See Page 30 for Dimensions and Specifications

DIN Rail Mtg	Hold Down Springs	Back Connecting			
DPDT 20982-81 3PDT 20982-82*	For DIN Sockets 20902-03* For Back Connecting 20902-00*	SPDT 20313-80 DPDT 20313-81* 3PDT 20313-82*	20312-80 20312-81* 20312-82*	20395-80 20395-81 20395-82	20314-80 20314-81 20314-82*